

REMARKS

The previously presented claim 1 has been cancelled and a new set of claims, as originally presented in an unentered preliminary amendment, is presented directed to the subject matter of the bypass diode with an i-type layer, and other configurations.

Reconsideration of this application is therefore respectfully requested.

The objection to the drawings has been noted and corrections to the specifications of pages 7, 8 and 17 have been made, which is believed to overcome the objection.

Claim 37 recites a multijunction solar cell and a bypass diode having p-type, i-type and n-type layers integral to a subcell. The JP9-64397A reference cited by the Examiner against the original claim 1 depicts a bypass diode 102 formed “on the same conductive substrate 103” but is not “integral to a subcell” as recited in claim 37. In an examination of Fig 1 of JP ‘397, there is depicted a solar cell 101 with layers 104A , 105A , 107A, 104B etc.. The adjacent diode 102 has completely different layers; 105D, 104D, 107D, etc., which do not align with the layers 104A, 105A, 107A, 104B of the cell 101. Since there is no correspondence of layers, the solar cell and the diode are different structures and the diode 102 is not integral to any of the subcells of the solar cell 101. Similar conclusions can be drawn by examining Figs. 2, 3, 4, 5, 6, 7, 8 and 9 of JP ‘397. Thus new claim 36, and the claims 38-46 dependent thereon, is patentably distinguished from JP ‘397.

Similarly, independent claims 47 and 58 recite a second region with “an integral bypass diode”, and is patentably distinguished from JP ‘397 for the same reasons.

Claim 50 recites a multijunction solar cell, a bypass diode, and a lateral conduction layer lying over the layers of the first region to connect the solar cell to the bypass diode. In JP '397, the conductive substrate 103 is not formed "over" any layers of any region. Accordingly, claim 50, and claims 50-57 dependent therein, are patentably distinguished from JP '397.

Claim 73 recites a multijunction solar cell, a bypass diode, and a metal layer deposited over a second region and shorting a first sequence of layers. JP '379 does not disclose such a configuration, and accordingly claim 73, and claims 74-81 dependent thereon, are patentably distinguished thereover.

Claims 82-86 recite a method for making a multijunction solar cell and bypass diode with layers "integral to a subcell" and claims 87-89 recite an "integral bypass diode"; such claims are distinguished from JP '397 for the same reasons noted above.

Claims 90-93 recite a method for making a multijunction solar cell with a bypass diode including the step of depositing a lateral conduction layer. For the same reasons noted in connection with claim 50 above, claims 90-93 are patentably distinguished from JP '397.

Reconsideration of the Examiner's double patenting rejection of claim 1 is requested in view of the newly submitted claims.

Applicants have attached a fee transmittal form SB17 for payment of extra claim fees. If such sheet is missing, the Commissioner is hereby authorized to charge Emcore Corporation deposit account 503029 for such fees.

A favorable consideration of the present amendment together with the original application is requested.

Respectfully submitted,

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